

REMARKS

In section (11) of the Examiner's Answer dated November 29, 2002, the Examiner responds to Appellants' arguments in the Appeal Brief. Appellants maintain their arguments from the Appeal Brief and here respectfully address what are considered to be errors in the Examiner's remarks in the Examiner's Answer.

Regarding Examiner's remarks on the rejection under 35 U.S.C. 102(e) over Wakabe on pages 5-6 of the Examiner's Answer. On page 5, the Examiner apparently addresses Appellants' remarks starting at the bottom of page 5 of the Appeal Brief. At issue is the interpretation of what is taught in the reference.

In particular, the Examiner comments on Appellants' remarks on page 6, third paragraph, where Appellants argued that the Examiner's statement (final Office action, page 3, lines 11-12) that "The cutting device acts as a parallel barrier formed between the electrode assembly and the cover vent" was in error. Appellants' interpretation of the Examiner's statement was that the term "barrier" was meant to be a barrier to the flow of gas, and that the Examiner's statement implied that Wakabe's charge-discharge lead was a thin film gas retaining gas. This interpretation was based on the final Office action, on page 3, line 8, where the Examiner states: "In one embodiment, the valve includes a **thin film cover which is penetrated by a cutting device**" (emphasis added). That is, Appellants interpreted these lines of the final Office action as a statement that Wakabe's cutting device penetrates a thin film cover to remove a barrier to the flow of gas, a point with which

Appellants disagreed.

The Examiner appears to continue this interpretation in the Examiner's Answer (page 5, 13 lines from bottom), stating: "This is not an assumption as the rupture of the thin film leads to venting as shown in claims 14-15." However, the Examiner also explains that the term "barrier" was meant to refer to a barrier to electrolyte, stating: "The cutting device, however, also acts as a parallel barrier for shielding the thin film from the electrolyte" Appellants assert that the Examiner is creating some confusion by referring to a barrier involved in the venting of gas and as a barrier to protect the thin film from the electrolyte.

Appellants continue to assert that lead cutting device 103 in Wakabe cuts charge discharge lead 2 or 102, for the purpose of **interrupting current flow** (Wakabe, column 8, line 6; line 23, etc.), and does not penetrate a thin film cover. In citing Wakabe's claims 14 and 15, the Examiner apparently refers to the last paragraphs of the claims. Claim 14 of Wakabe reads:

14. A safety device for a storage battery, the storage battery having a case with a vent hole, said safety device comprising:
a charge-discharge lead one end of which is connected to a positive electrode side of said storage battery and the other end of which is connected to a positive terminal of said storage battery;
pressure-sensing means which deforms in response to an increase of the pressure in said storage battery; and
cutting means for cutting said charge-discharge lead, said cutting means being pressed by the deformation of said pressure-sensing means to cut said charge-discharge lead, said **cutting means being an integral part of the pressure-sensing means, so that when said cutting means cuts said charge-discharge lead, not only is current interrupted, but excess gas is permitted to simultaneously escape through the vent hole.** (emphasis added)

That is, the Examiner apparently refers to the emphasized portion.

Appellants' respectfully assert that the Examiner may have misinterpreted Wakabe's claim 14. Although in this claim the release of excess gas through the vent hole occurs **simultaneously** with the cutting of the charge-discharge lead, in Appellants submit it is not the cutting of the charge-discharge lead that allows the release of gas. Appellants note that the description of the escape of excess gas escaping simultaneously occurs only in this claim and does not occur in the body of Wakabe's specification. Appellants interpretation of Wakabe's claims 14 and 15 is as follows: The claims recite "**said cutting means being an integral part of the pressure-sensing means**". The implication, although never clearly explained, is that the movement of the cutting means somehow breaks the pressure-sensing means, allowing "excess gas is permitted to simultaneously escape through the vent hole". The mechanism is never clearly disclosed in Wakabe, but it is clear that Wakabe's **charge-discharge lead 102** is not a barrier to gas or to electrolyte.

Appellants also note that the Examiner states: "As shown in claims 14-15, the hole is covered to prevent the loss of gas until the thin film is cut." However, Wakabe's claims 14-15 do not recite a "thin film" nor a covering over the "vent hole".

Charge-discharge lead 102 is clearly not what is holding in the gas. Based on Wakabe's Fig. 9, one can infer that the **pressure-sensing device 101** must be sealing the gas in, or else it would not sense pressure (column 6, line 60, to column 7, line 15). Wakabe states that "the pressure-sensing device 101 in the safety device mounted hermetically in the case cover 108 deforms gradually under the increasing pressure" (column 8, lines 2-4).

Appellants therefore respectfully submit that the Examiner may have meant to state that the pressure-sensing device 101 is the recited "thin film." In this interpretation, the pressure-sensing

device 101 would be a “thin film” that is part of a valve.

However, even in this revised interpretation of the rejection, Wakabe’s pressure sensing device 101 does not meet the limitations of claim 1: **pressure sensing device 101 does not cover a gas release hole in the closure cap; and there is no shielding member located between pressure sensing device 101 and the generator element.**

Since the Examiner’s rejection is based on taking Wakabe’s charge-discharge lead 102 as the recited “thin film” of claim 1 on appeal, this continues to represent an error in the Examiner’s argument. However, as noted, even the revised rejection is still structurally inconsistent with the present claims. These comments also relevant to the Examiner’s arguments “Regarding the thin film ...”, at the bottom of page 5 of the Examiner’s answer, where again the Examiner interprets charge-discharge lead 102 in Fig. 9 as a thin film.

Regarding the Examiner’s response to Appellants’ arguments “Regarding the shielding member” on page 6 of the Examiner’s Answer. The Examiner addresses Appellants’ arguments concerning Wakabe’s figure 4, from pages 7-8 of the Appeal Brief. Appellants had argued that Wakabe had no analogue of the recited shielding member between Wakabe’s charge-discharge lead and the electrode assembly.

The Examiner begins his remarks by stating: “There is no limitation in the claims to a shielding member between a charge-discharge lead and an electrode assembly.” Appellants believe that this remark is inappropriate; the “charge-discharge lead” and the “electrode assembly” are elements in Wakabe’s disclosure and Fig. 4, and the Examiner has taken Wakabe’s “charge-

discharge lead” as the recited “thin film” of claim 1, and has taken Wakabe’s “electrode assembly” as the recited “generator element”. Claim 1 clearly recites that “a shielding member is located between the **thin film** and the **generator element**”. Therefore, Appellants’ remark that Wakabe had no analogue of the recited shielding member between the charge-discharge lead and the electrode assembly in Fig. 4 was completely appropriate and relevant. Appellants maintain this argument.

The Examiner then states that “the cutting device” 103 in Wakabe corresponds to the “shielding member” of the present claims and notes that Wakabe’s pressure sensing device 101 is resistant to corrosion. That is, the Examiner now appears to be taking Wakabe’s pressure sensing device 101, rather than cutting device 101, as the “shielding member”. It is true that pressure sensing device 101 is hermetically sealed and deforms gradually in response to increasing pressure below device 101 (column 8, line 3). However, it is not clear that pressure sensing device 101 and cutting device 103 “secure a gas channel from an internal space of the external casing to the gas release hole” as recited in claim 1. Moreover, this new interpretation would further support Appellants arguments that Wakabe’s “charge-discharge lead” is not a thin film covering a gas release hole; pressure sensing device 101 would have to be the thin film. However, Wakabe’s pressure sensing device 101 is not in the structural location required by present claim 1 for the thin film.

Regarding Wakabe’s Figure 14. On page 6, second and third full paragraphs of the Examiner’s Answer, the Examiner disagrees with Appellants’ interpretation of Wakabe’s Fig. 14C. In particular, the Examiner refers to Appellants’ arguments concerning the “rectangles shown in Figure 14C”. Appellants had argued (Appeal Brief, page 8, third paragraph) that the rectangles in

Fig. 14C represented an opening in packing 14C that totally exposes gas discharge opening 231 from below.

Appellants have here supplied a redrawn version of Wakabe's Fig. 14C (see Attachment) to illustrate this point.

Fig. 14C is a view showing the battery cover unit 202 seen from the inside. The figure shows the gas discharging opening 231 along with the packing 207 and the electric collection washer 208.

Fig. 14B, on the other hand, shows the gas discharging opening 231, the packing 207, and the electric collection washer 208 so as to show their relative locations in the vertical direction. In view of the two figures, in Fig. 14C, the **diagonally-shaded area represents the packing 207**. Accordingly, it is apparent that the packing 207 has an opening at a part corresponding to the gas discharge opening 231.

Therefore, Appellants maintain their arguments and respectfully disagree with the Examiner that Wakabe's packing member functions as a shielding member between the electrode assembly and the thin film.

Regarding the rejection under 35 U.S.C. 103(a). Starting on page 6, second to last paragraph, the Examiner addresses Appellants' arguments concerning the rejection under 35 U.S.C. 103(a) over Wakabe '464. First of all, the Examiner disagrees with Appellants' arguments that Wakabe does not teach a shielding member meeting the limitations of the claims, citing the preceding arguments. That is, the Examiner is implying that claim 1 is anticipated.

The Examiner then addresses claim 3, stating that "The reference may not clearly show the

embodiment where the shielding member is a plate set in parallel with the thin film ...” and “it would be obvious use the cutting device as a parallel barrier for shielding the thin film from the electrolyte in the embodiment of figure 14. One of ordinary skill in the art would understand that [the] cutting device would be placed below the vent hole to pierce the thin film. ...”

In response to this, Appellants first note Appellants’ above arguments that Wakabe does not provide the limitations of claim 1, in particular a thin film and a shielding member meeting the structural limitations of the claim. Secondly, Appellants note that the Examiner’s remarks with regard to claim 3 are **new arguments**, directed to Appellants’ arguments regarding why the claims are not suggested by Wakabe.

Appellants respectfully submit that the Examiner’s arguments do not provide a suggestion or motivation for the limitations of claim 1, the base claim, nor for claim 3. Claim 3 recites that “the shielding member is a plate set in parallel with the thin film.” Claim 3 therefore has two limitations: that the shielding member is a plate, and that it is set in parallel with the thin film. Any suggestion for claim 3 would require that there be a shielding member that is a plate, and that there be a thin film.

The Examiner has clearly stated that Wakabe’s charge-discharge lead 102 corresponds to the thin film of claim 1, although Appellants have argued above that charge-discharge lead 102 is not even a film. The Examiner now states that “the cutting device [is] a parallel barrier for shielding the thin film from the electrolyte”. This statement assigns the cutting device as the “shielding member” (which is parallel to the thin film in claim 3), an assignment that has been discussed above. Although the bottom of cutting device 103 might possibly be considered to be a plate that is parallel

to charge-discharge lead 102, cutting device 103 does not meet the structural limitations of claim 1 for the shielding member, as discussed above. Therefore, the rejection as stated by the Examiner has not provided either a thin film or a shielding member meeting the limitations of claim 1.

The Examiner's further arguments (page 6, last five lines) now discuss an apparent combination of Wakabe's Fig. 9 and Figs 14. Appellants are confused by this combination, since Wakabe's Fig. 9 discloses the second embodiment (column 4, line 32) and Figs. 14 disclose the third embodiment (column 4, lines 43-48). In combining the references the Examiner states that "The reference shows that the two embodiments of releasing gas may be used together", citing column 11, lines 20-25. However, Appellants' understanding of these lines of Wakabe is that the battery may have the device of Fig. 9 on one portion of case cover 108, separate from the region on the right of Fig. 14A. Wakabe does **not** appear to be implying that the device of Fig. 9 could somehow lie under penetration opening 211 in Figures 14A and 14B, as would be required by the Examiner's rejection. Moreover, Appellants have argued above that Wakabe's Fig. 14 also does not disclose or suggest a shielding member as recited in claim 1.

Regarding the rejection under 35 U.S.C. 103(a) over JP 07022013A. On page 7 of the Examiner's Answer, the Examiner addresses Appellants' arguments regarding this rejection.

First, in "Regarding the gas release valve", the Examiner remarks on Appellants' argument that terminal plate 9 in the reference does not "cover" a hole at all (page 10, bottom paragraph, to page 11, top paragraph, of the Appeal Brief). The Examiner states "The applicant's remark does not address the obviousness of the rejection." Appellants disagree. Appellants' remark was directly

specifically against the Examiner's alleged *prima facie* case of obviousness, noting that the Examiner had not provided a teaching in JP'013 for the thin film which covers a gas release hole in claim 1, which recites: "... the closure cap having a gas release valve that is formed by **covering a gas release hole** in the closure cap **with a thin film** ...").

Appellants note that MPEP 2142 provides:

"To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, **the prior art reference (or references when combined) must teach or suggest all the claim limitations**. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must be found in the prior art, and not based on applicant's disclosure." (emphasis added)

Without a **teaching or suggestion** for this limitation of claim 1, there can be no *prima facie* case of obviousness. Appellants' remarks clearly addressed the lack of a teaching to this effect and therefore are directly relevant to the alleged *prima facie* case of obviousness. Appellants maintain this argument.

Similarly, in "Regarding the shielding member", the Examiner states that Appellants' arguments on page 11, third paragraph, of the Appeal Brief did not address the rejection. However, these arguments specifically noted that gasket 7 of JP'013 **did not meet the structural limitations of the shielding member in claim 1**. Again, this is directly relevant to the Examiner's alleged *prima facie* case of obviousness, because **the Examiner has not provided an element in the reference meeting these limitations**.

In "Regarding the obviousness rejection", the Examiner again admits that JP'013 does not

anticipate the present claims. The Examiner explains that the battery cover washer 8 in JP'013 corresponds to the recited closure cap of present claim 1. The Examiner is apparently stating that thin-hole portion 7a of JP'013 corresponds to the recited gas release hole. The Examiner states that "The '013 reference does not teach the cover hole to be covered with a thin film. It is however, covered with a thin metal terminal contact which **allow for gas release** and prevents electrolyte from contacting the cover washer and exiting the vent hole."

Appellants note that the Examiner states on pages 7- 8 that: "The covering of the hole with a thin film that may break upon increased pressure is not necessary in this embodiment as the pressure release is integrally located in the gasket. **It is noted that is not a claimed feature of the invention. The only requirement is that the hole is covered.**" (Emphasis added). Appellants respectfully disagree. Although "breaking upon increased pressure" is not recited, Appellants assert that the Examiner is incorrect that "the only requirement is that the hole is covered." Claim 1 specifically recites: "the closure cap having a **gas release valve** that is formed by covering a gas release hole with a thin film". Claim 1 therefore requires that the covering of the gas release hole with a thin film form a **gas release valve**.

The Examiner therefore agrees with Appellants that JP'013 does not teach a thin film as recited in claim 1. Moreover, the Examiner notes that negative electrode terminal plate 9 (which the Examiner refers to as "thin metal terminal contact") allows for gas release. This is true, since terminal plate 9 includes gas vent hole 9a. This means that terminal plate 9 **cannot** serve to retain gas, and **cannot** be considered to be a thin film covering a gas release hole, forming a gas release

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valve (see recitation of claim 1). Even if hole 9a were sealed in JP'013, terminal plate 9 would not form a gas release valve.

Moreover, even if terminal plate 9 is taken as a "shielding member", it would not meet the structural limitations for the shielding member, recited in claim 1, that the shielding member is "between the thin film and the generator element ..." If terminal plate 9 is taken as the shielding member, then it cannot be modified to also be the thin film.

Appellants therefore maintain their arguments that no *prima facie* case of obviousness for the claims can be made using JP 07022013A.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicant's undersigned agent at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

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In the event that this paper is not timely filed, Applicant respectfully petitions for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

ARMSTRONG, WESTERMAN & HATTORI, LLP



Daniel A. Geselowitz, Ph.D.
Agent for Applicant
Reg. No. 42,573

DAG/plb
Atty. Docket No. 020259
Suite 1000, 1725 K Street, N.W.
Washington, D.C. 20006
(202) 659-2930



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Enclosures: Explanatory redrawn version of Figure 14C of Wakabe et al. '464

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